



**ARL is an Authority on Nutrition  
and the Science of Balancing Body  
Chemistry Through Hair Tissue  
Mineral Analysis!**

Hair Tissue Mineral Analysis


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## Cardiovascular Disease

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### Cardiovascular Disease

Cardiovascular disease includes symptoms of heart palpitations, congestive failure, arrhythmias, angina, arteriosclerosis, impaired circulation, strokes and heart attacks. Tissue mineral analysis and nutritional balancing provide insights about the causes and correction of many of these symptoms.

#### Magnesium And Heart Disease

Magnesium plays a critical role in cardiovascular disease. Magnesium is needed within the cells for the production of energy. Magnesium is also required for muscle relaxation. Low magnesium can result in symptoms ranging from tachycardia and fibrillation to constriction of the arteries. Secondary effects include angina and embolism or thrombosis (heart attack).

Modern diets are low in magnesium. The refining and food processing removes magnesium from grains and other food products. In addition, the alarm reaction in response to stress depletes magnesium.

Many people with cardiovascular symptoms have low magnesium levels on their hair analyses, or magnesium is low in relation to calcium, sodium and potassium. These people are usually fast oxidizers.

Another group of people with cardiovascular symptoms have very high magnesium levels. These are usually slow oxidizers. Their calcium/magnesium ratios may or may not be normal. The high magnesium is often a loss of magnesium into the hair. The condition is called bio-unavailable magnesium. These individuals need extra magnesium until they are able to utilize magnesium properly. An especially well-utilized magnesium supplement is magnesium aspartate.

#### Copper And Heart Disease

Dr. Klevay and other researchers proved that copper deficiency is associated with an increased risk of arteriosclerosis. Fast oxidizers tend to be copper deficient. Slow oxidizers may have bio-unavailable copper. An excessive intake of zinc or vitamin C can induce a copper deficiency.

#### Zinc And Arterial Flexibility

Zinc is required for the synthesis of protein structures. Adequate zinc helps to keep the artery walls flexible. Zinc deficiency is associated with increased brittleness and hardening of the arteries. Hardening increases blood pressure and increases the chances for strokes and aneurysms.

Low zinc allows the tissue sodium level to rise, which can contribute to high blood pressure and fluid retention.

#### The Sodium/Potassium Ratio

An important indicator for cardiovascular disease is a low hair sodium/potassium. This ratio indicates tissue breakdown. This can result in cardiomyopathy (destruction of the heart muscle) or irritation of the arterial walls. The breakdown of arterial tissue causes weakening of the arteries and an increased tendency for hemorrhage, aneurysms and strokes. Weakening or irritation of the artery walls may cause the body to respond by coating the arterial walls with fatty or calcium plaques. The results are arteriosclerosis and atherosclerosis.

#### Toxic Metals

Toxic levels of certain minerals are associated with increased risk of cardiovascular disease. Toxic metals harm the body by displacing vital minerals in enzyme binding sites. Cadmium replaces zinc in the arterial walls, causing increased brittleness and hardening of the arteries. Cadmium in the kidneys causes congestion that can raise blood pressure, placing extra stress on the entire cardiovascular system.

Toxic levels of iron can infiltrate the heart muscle and contribute to heart failure. Mercury, lead and other toxic metals can contribute to calcium, magnesium, zinc and copper deficiencies and thereby increase blood pressure and increase the risk of other cardiovascular symptoms.

#### Emotions And Lifestyle

Studies indicate that anger turned inward is associated with increased blood pressure and greater risk of heart attacks. Frustration, hostility and resentment in particular create this pattern. Not all 'type A' personalities have more heart attacks. The angry and frustrated 'type A' personalities have a greater risk of heart attacks.

Lifestyle plays an important role in the prevention and correction of heart disease. Exercise has been shown to be very important. Adequate rest and sleep, sunshine, skin brushing, stress reduction and other natural therapies are all helpful.

#### Diet And Cardiovascular Disease

There is much emphasis on saturated fat intake and heart disease. This is undoubtedly important for slow oxidizers who have difficulty with fat. Dr. Dean Ornish demonstrated reversal of plaque formation with a combination of a low-fat, vegetarian diet, meditation and exercise.

Robert Atkins, M.D., a New York cardiologist, found that a low carbohydrate diet with some fat is very helpful for certain cases of heart disease. These are most likely fast oxidizers. In these individuals, some fats and oils balance body chemistry and lead to improved health.

#### Other Nutrients

Vitamin C, vitamin E, chromium, selenium, potassium, essential fatty acids, especially the omega-3 and omega-6 family, bioflavonoids and many other nutrients influence the cardiovascular system. Heart glandular substance and herbs such as cayenne pepper, hawthorn berry and others may also be helpful. Enhancing energy production by balancing the oxidation rate helps many cases.

For these reasons, a complete scientific nutrition program that addresses all the above is the best approach for prevention and correction of cardiovascular disease.

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